

**What is claimed is:**

1. A heater comprising:
  - (a) an induction chamber <sup>12</sup> provided with an inlet;
  - (b) a combustion chamber in fluid communication with said inlet of said induction chamber;
  - (c) means for moving an oxidizer from said inlet of said induction chamber to said combustion chamber;
  - (d) a fuel reservoir;
  - (e) a frame defining a fuel passageway;
  - (f) means for moving a fuel from said fuel reservoir through said fuel passageway to said combustion chamber;
  - (g) means in fluid communication with said fuel passageway for shearing a fuel prior to combustion;
  - (h) means <sup>58</sup> in fluid communication with said fuel passageway for heating a fuel prior to combustion; and
  - (i) means for combusting a fuel oxidizer mixture within said combustion chamber.
2. The heater of Claim 1, further comprising means for maintaining an oxidizer away from a fuel as said fuel is heated with said heating means.
3. The heater of Claim 2, wherein said heating means is means for heating fuel to a temperature in excess of 500 degrees Celsius.

4. The heater of Claim 2, wherein said heating means is a shell in fluid communication with said fuel passageway and provided with means for allowing a heated fuel to escape from said shell.

5. The heater of Claim 4, further comprising means for rotating said shell.

6. The heater of Claim 5, further comprising a propeller secured to said shell.

7. The heater of Claim 6, wherein said spinning means and propellers are operably coupled to said shell in a manner which forces a fluid coming into contact with said propeller over said shearing means.

8. The heater of Claim 1, wherein said shearing means is a shear and means coupled to said shear for directing said shear across a first concentration of fuel having a first surface area in a manner which divides said first concentration of fuel into a second concentration of fuel having a second surface area, and a third concentration of fuel having a third surface area, wherein the total surface area of said second surface area and said third surface area is greater than said first surface area.

9. The heater of Claim 8, wherein said heating means is a shell in fluid communication with said fuel passageway and wherein said shear is a perimeter of an aperture provided in said shell.

10. The heater of Claim 9, wherein said moving means is a propeller secured to said shell.

11. The heater of Claim 1, further comprising means for pressurizing a fuel and oxidizer mixture within said combustion chamber.

12. The heater of Claim 11, wherein said pressurizing means is a diffuser plate, secured over said combustion chamber.

13. The heater of Claim 1, further comprising means for cooling said fuel passageway.

14. The heater of Claim 13, wherein said cooling means is means for circulating a fluid around said frame defining said fuel passageway.

15. The heater of Claim 1, further comprising means for preventing a fluid from exiting said combustion chamber at a rate in excess of \_\_\_\_\_ kilometers per hour.

16. The heater of Claim 1, further comprising a hollow heat exchanger, secured for rotatable movement around an outlet of said fuel passageway.

17. The heater of Claim 17, further comprising means provided within said heat exchanger for dividing waste material into particles sufficiently small to pass through an exhaust port of said heat exchanger.

18. The heater of Claim 17, wherein said dividing means is a ball provided within said heat exchanger.

19. The heater of Claim 17, wherein said heating chamber is provided with a plurality of outlets and wherein a plurality of balls are provided within said heat exchanger.

20. The heater of Claim 19, wherein said heat exchanger is provided with an interior circumference, and wherein a sufficient number of balls are provided so as to substantially cover said circumference when said heat exchanger is rotated.

21. A heater comprising:

- (a) an induction chamber having an inlet and an outlet;
- (b) a combustion chamber having an inlet in fluid communication with said outlet of said induction chamber, said combustion chamber also being provided with an outlet;
- (c) a heat exchanger comprising:

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- (i) an exterior shell defining an interior and an outlet;
  - (ii) means provided on said shell for shearing fuel;
  - (iii) means coupled to said exterior shell for propelling fluid as said heat exchanger is rotated;
  - (d) a fuel reservoir;
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  - (e) a quill having a first end in fluid communication with said fluid reservoir, and a second end in fluid communication with said interior of said exterior shell of said heat exchanger;
  - (f) means coupled to said quill for regulating a flow of fuel through said quill;
  - (g) means for producing a back pressure within said combustion chamber;
  - (h) means for rotating said heat exchanger at a sufficient speed to draw a fluid into said induction chamber and into said combustion chamber; and
  - (i) means for combusting a fuel within said combustion chamber.

22. The heater of Claim 21, further comprising means for attenuating a flow of fluid into said inlet of said induction chamber.

23. The heater of Claim 22, wherein said attenuating means is a damper.

24. The heater of Claim 21, wherein said propelling means is a propeller secured to said exterior shell of said heat exchanger.

25. The heater of Claim 21, wherein said backpressure producing means is a diffuser plate secured over at least a portion of said combustion chamber.

26. The heater of Claim 21, wherein said combusting means is a spark plug in fluid communication with said combustion chamber.

27. The heater of Claim 21, further comprising means for cooling said quill.

28. The heater of Claim 27, wherein said cooling means is means for circulating a fluid around said quill.

29. The heater of Claim 21, further comprising means provided within said heat exchanger for dividing waste material into particles sufficiently small to pass through said outlet of said heat exchanger.

30. The heater of Claim 29, wherein said dividing means is a ball provided within said heat exchanger.

31. The heater of Claim 30, wherein said heating chamber is provided with a plurality of outlets and wherein a plurality of balls are provided within said heat exchanger.

32. A combustion heating system comprising:

- (a) an induction chamber having an inlet and an outlet;
- (b) means for controlling a flow of fluid through said induction chamber;
- (c) a combustion chamber having an inlet in fluid communication with said outlet of said induction chamber, said combustion chamber also being provided with an outlet;
- (d) a diffuser secured over at least a portion of said outlet of said combustion chamber;
- (e) a turbine provided at least partially within said combustion chamber, said turbine comprising:
  - (i) a wall defining an interior cavity and provided with a sidewall defining an aperture through said wall and in fluid communication with said interior cavity;

- (ii) a propeller secured to said wall.
- (f) <sup>60</sup> a quill having an outlet in fluid communication with said interior cavity of said turbine, said quill also being provided with an inlet;
- (g) a fuel reservoir in fluid communication with said inlet of said quill;
- (h) means for regulating a flow of fluid through said quill;
- (i) means for rotating said turbine at a sufficient speed to draw a fluid from said induction chamber into said combustion chamber, and to cause said sidewall of said wall of said turbine to shear a fuel exiting said turbine through said aperture; and
- (j) means in fluid communication with said combustion chamber for combusting a fluid oxidizer mixture within said combustion chamber.